

DATE:

Aug 27, 1954

REF:

1	2	3	4	5	6	7	8	9	10
A.	W23y4 + W1177								
B.	" " "	Lac ⁺ Gal ⁻ SB ⁻ Mot ⁺ Hfr	Lac ⁻ Mot ⁻ SR ⁺	W1394 Lac ⁺ Mot ⁺ SR ⁺ F ⁻	young cultures 1 ml each per 10mL 1:10 PMS. Plate at 4:30 PM. EN113 Lac				
C.	W23y4 + W2401	(for Mot ⁺ SR ⁺ selection)	-		more motility ± sm.				
D.	W1895 x W1177	4/28/54.		Young cells. 1:30 PMS -					
E.	" " " x W1394.			X too smeared.					

#38: (3) Pick sector colonies. Test Mal/S.
 14/11 plates x 150 colonies scoreable
 But Mal⁻ Lp^s character of Hfr parent
 may prejudice results. However at this time,
 the Hfr was probably not entirely distinct from W1884. (judging from plate + sm)

Est 3-yo% econtr in A / σ_{sys}

A29: 5 only had Mal⁺. 6 were pure Mal⁻. 3 clearly Mal⁺ S^S/Mal⁻ S^R.
 of remaining 2, one may be pure ~~to~~ Mal⁺ S^R, other is Mal⁺ S^R/Mal⁻ S^R.

50 Restraints to characterize components.

1152 B1-2 : chesterbury DTG next page

1152

DATE:

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B1 and B2 streaked out from spots on B mal.

B1 → mal + and mal - ; six of each picked

B2 → 2 types mal +, one dark, one light

col. picked
as

B1 +

1 2 3 4 5 6 7 8 9 10

mal

gal

lac

meth

5
alternating

V5

SS

Lp^s coincidents

4/27/54 ff. Has given irradiated plates of W478 and Egal, c
suspected sensitivities marked.

(1) Picked possible sensitivities,
stratified on B.O.;

spotted in order on complete
replicated to D(meth)

→ 31 Lp^s; 2 autotrophs; all salt

478-4
Both sensitive &
resistant components
original col.
autotrophic
Trypt -
W₂475

478-5
Sensitive
4 autotrophs
Trypt -

W₂476

(M-)
(2) Several plates replicated
directly to D(meth) to
pick up now-Lp^s autots
(5 plates, ca 150 col/plate)

3 possible double autots.

478-1 grown in D(meth)	478-2 resistant AAZ -	478-3 resistant Trypt -
------------------------------	-----------------------------	-------------------------------

discarded

5/6/54 ff. Started c irradiated plates of W478 - before.
16 Lp^s obtained; nutrition checked by EML

5/11/54 ff. 478 UV(8). Procedure as before. 29 Lp^s
obtained; nutrition checked by EML

W.M.L.

DATE: May 8, 1954

REF: 1152

1152 B suggested W1177xW1391 in presence of Hfr (W2304)
repeat design.

1. Y10 x W1177 x W1941
 lac^+ lac^- Hfr
 lac^+ lac^- lac^+

Grow together 1:1:10 ~~11:1~~ 12³⁰ PM -
SPM.

2. Y10 x W1177 (both F^-)

Then streak out on EM13 lac +.

3. W1941 x W1177 (both lac^-)

or plate

4. W1941 x Y10. (both s^+)

Sept 10:

1. 5 plates (> 200 each) all lac^-

2. 1 all -

3. 1 all -

4. 1. N.G. -

parents checked for lac, s : 0/0

$\text{H}_2 \times F^- (\times F^-)$ & noble

1153.

DATE: April 28, 1950.

REF:

DATE:

REF:

Scorzonera hispanica

loc. SM Mal

thus t.

	1	2	3	4	5	6	7	8	9	10
A 1 2 3 4 5										
B 1 2 3 4 5										
C 1 2 3 4 5	±	S	+							
D 1 2 3 4 5	+	S	+	+						
E 1 2 3 4 5	±	S	+	+						
F 1 2 3 4 5										
G 1 2 3 4 5	±	S	+							
H 1 2 3 4 5	±	S	+							
50										

*No decumbentines
evident (steep hill)
(Nov W/32d). see.*

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1153D	1 [129]	2 Dogsdead	3	4 Scores	5	6	7	8	9	10
1 A 1	pair !	28		-	-	+	R	-		
2 B 1	pair !	28		- +	-	+	R (act, -)	-		
3 E 1	2	28		-	-	+	R	-		
4	3	not?	28	+ -	-	+	R	-		
5 F 1	dump	28		+ +	-	+	S	-		
6 G 1	2	1		+ + +	+ +	-	S	-		
7 H 1	2	28		+ + + +	+ +	-	S	-		
8	2	1		+ + + +	+ +	-	S	-		
9	2	1		+ + + +	+ +	-	S	-		
10	2	1		+ + + +	+ +	-	S	-		

definite correlations of pairs with recombination. Note disagreement
of the first cell!

∴ 4 pairs have given \pm 2 zygotes! B, E the Hfr parent disappeared,
but gave 3. A1: no recomb. detected so far. G: both survived, no
zyg. These pairs are almost certainly significant!

⁴⁰ went them further. Save 1153D-1-6 for later complete survey of marshes.

E. coli : motility observations
and isolations.

1154

and other notes on stockes

DATE:

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1	2	3	4	5	6	7	8	9	10
1/28.	<i>E. coli</i> C - 4th passage (see 1153 ²) gave entirely motile culture, still concid. Continue passage at L.T. (1157B4)								
(This culture started from micro-col of motile cell → semi-motile alone. Then to agar's gelatin at 30°, then to motility agar at 37°.)									
c.f. W2401: No motile cells <u>near at all</u> . No motility in gelatin or agar at 3days at 37, 30, L.T., or 20°. Resuscitate. [do. 52C sent.]									
W1895 - sluggish, occ. motile. [Are unmotile motile cells F-?]									
W2284 - I Hfr mot → F-]. Highly motile.									

20	Select by pass	231	W1895	1817					
	motility tubes. W117,								
	is Hfr stockes, isolate. Joint cross, 5/8								
	each stage; F- stocke								
30	1st passage W1895, W		1895: none motile ≈ 1817						
	still Hfr (reduced)		than ≈ 1177. 86% protographs						
	not. DCE is declining		lac +.						
			2344: about equal no. of						
			protographs ≈ 1177 + 1817; also						
			all lac +						

40	May 2 Mar Ecol	Stocked out 1895 M2 & 2344 M2.							
	a) is gelatin 30°	Used single col. of each &							
	b) is gelatin 37. ¹⁸⁹⁵ M2	Repeated cross, using fresh tester cultures. Motile slants of the ¹⁸⁹⁵ 2344 cultures used. Results of these crosses:							
	others same								

	<u>motile</u>	<u>1177</u>	<u>1817</u>
1895	0	1 lac -	65+, 7-
2344	1 -	0	11+, 11 -

5/23. Note: in recent weeks

$\sigma^{\oplus} = w2344M1$ If₂ $\sigma^{\ominus} = w2401F^-$
 ^{wg 1.} ^{wg 20A}

Question of λ reaction

$w2401$ proves $\lambda^R \lambda_2^R$.

cf. $w2284 = \lambda_s^R \lambda_2$.

enacted in Mn^{+} as before? Strikingly consistent with $w2284/\lambda_2$.

DATE: MAY 3, 1954

REF:

Save water refreg. cross as 1155, the first dilution left at room temperature ca. 11:30 AM - 5PM 5/3/54, as 1155A.

9:05 AM Make up control ($F^- \times F^-$) W233M1 \times W2401 1:1:20

B₁ (Pneum); B₁ (VIB) (rem.) (36 h.)

MAY 4 1954

¹⁰ C. ¹³² W234M1 \times W2401 in VIB. 1:1:20 9AM 37°

370.

1155A has grown to ca 5×10^7 (density) by this point.

Redilute for set up = A2. Also fresh dilution from 1155 = A3
A.T. 1:100 are 37°

20 See next page.

Most pairs give over mixed clones not with pairing. Some of these were however picked apart quite early. V, Z.

- A2-B5 - - - (A2 not uniall) Not test

* D1-D4 D5 all bac - Presumably was not a pair.

³⁰ D2-D3 ± ; + - C5 X, Ø -

F1-F2 ± ; + - Ø ✓

E3 F5 G5 ± (-) - Ø ✓

G4 H5 - + -

40 1. every pair then separated evidence zygote formation!

H counted as
dissected pair

50 Could pairs come from
fission of zygote?

Isolate couples Hfr x F⁻

1155

A

DATE: May 3, 1954.

REF: 1153D!

9:30 AM Fresh cultures (not regrown)

W2344M1 x W2401. 1:1:10 9:30 - 11:30 37°. (Refr. for later tests)

A). Dilute 1:100 for isolations. Keep this at room temperature.

130

1153D!

But most of these pairs give mixed "clones". g.

A 1-4 POM
P
P
? Kogel.

B 1 P
2 P
3 O P
4 A3u
25 A228.

C 1 P →
2 2m?
3 18 c2

D 1 P? Kogel 2

2 P
3 D2
4 D1

E 1 P
2 P
3 P
4 P → 2+

F 1 P m
2 18
3 3m
4 E1

G 1 P E3
2 P
3 P 2+
4 P?

H 1 X E3
2 P 2+
3 E4
4 G4

8 PM

10 AM

n.g.

10

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Zygotes

11056

DATE: May 3, 1959

REF:

1	2	3	4	5	6	7	8	9	10
Parent cultures overnight.				W 2344M1 x W 2401		11x 1:10 in			
Penessey 10:15 AM 3/7.						plate MAY 6 1954			
136	EMBac 5	MTR; Mal	Gal	CLASS					
Growth pattern	A7								
A1	1	+							
2	0 (28)	++			+	-	♂		
3	1	+	.		+	-	♂		
4	0	28	.		-	+	♀		
5	28	-		R-	-	+	♂		
B1	1	+			+	-	♀		
2	28	(+)		R also + R	-	+	♂		
3	0	28			+	-	●		
Y	1				+	-	○		
-I3	28	++	-	R-+	-	+	○		
1	28	++	-	R-+	-	+	●		
2	28	++	-	R-+	-	+	●		
3	28	++	-	R-+	-	+	●		
4	28	++	-	R-+	-	+	●		
5	28	-		R-	-	+	●		
-I2	28	-		affable contamination	+	+	●		
1	28	-		R-+	R	-	●		
2	28	-		R-+	R	-	●		
3	28	-		R-+	R	-	●		
4	28	-		R-+	R	-	●		
5	28	-		R-+	R	-	●		
E1	0	28					♂		
2	0	28					○		
3	0	28					○		
4	0	28					○		
5	0	28					○		
F1	0	28					○		
2	0	28					○		
3	0	28					○		
4	0	28					○		
5	0	28					○		
G1	0	28					○		
2	0	28					○		
3	0	28					○		
4	0	28					○		
5	0	28					○		
H1	0	28					○		
2	0	28					○		
3	0	28					○		
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5	0	28					○		
I1	0	28					○		
2	0	28					○		
3	0	28					○		
4	0	28					○		
5	0	28					○		
J1	0	28					○		
2	0	28					○		
3	0	28					○		
4	0	28					○		
5	0	28					○		
K1	0	28					○		
2	0	28					○		
3	0	28					○		
4	0	28					○		
5	0	28					○		
L1	0	28					○		
2	0	28					○		
3	0	28					○		
4	0	28					○		
5	0	28					○		
M1	0	28					○		
2	0	28					○		
3	0	28					○		
4	0	28					○		
5	0	28					○		
N1	0	28					○		
2	0	28					○		
3	0	28					○		
4	0	28					○		
5	0	28					○		
O1	0	28					○		
2	0	28					○		
3	0	28					○		
4	0	28					○		
5	0	28					○		
P1	0	28					○		
2	0	28					○		
3	0	28					○		
4	0	28					○		
5	0	28					○		
Q1	0	28					○		
2	0	28					○		
3	0	28					○		
4	0	28					○		
5	0	28					○		
R1	0	28					○		
2	0	28					○		
3	0	28					○		
4	0	28					○		
5	0	28					○		
S1	0	28					○		
2	0	28					○		
3	0	28					○		
4	0	28					○		
5	0	28					○		
T1	0	28					○		
2	0	28					○		
3	0	28					○		
4	0	28					○		
5	0	28					○		
U1	0	28					○		
2	0	28					○		
3	0	28					○		
4	0	28					○		
5	0	28					○		
V1	0	28					○		
2	0	28					○		
3	0	28					○		
4	0	28					○		
5	0	28					○		
W1	0	28					○		
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X1	0	28					○		
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Y1	0	28					○		
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Z1	0	28					○		
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AA1	0	28					○		
BB1	0	28					○		
CC1	0	28					○		
DD1	0	28					○		
EE1	0	28					○		
FF1	0	28					○		
GG1	0	28					○		
HH1	0	28					○		
II1	0	28					○		
JJ1	0	28					○		
KK1	0	28					○		
LL1	0	28					○		
MM1	0	28					○		
NN1	0	28					○		
OO1	0	28					○		
PP1	0	28					○		
QQ1	0	28					○		
RR1	0	28					○		
SS1	0	28					○		
TT1	0	28					○		
UU1	0	28					○		
VV1	0	28					○		
WW1	0	28					○		
XX1	0	28					○		
YY1	0	28					○		
ZZ1	0	28					○		
AA2	0	28					○		
BB2	0	28					○		
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DD2	0	28					○		
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KK3	0	28					○		
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NN3	0	28					○		
OO3	0	28					○		
PP3	0	28					○		
QQ3	0	28					○		
RR3	0	28					○		
SS3	0	28					○		
TT3	0	28					○		
UU3	0	28					○		
VV3	0	28					○		
WW3	0	28					○		
XX3	0	28					○		
YY3	0	28					○		
ZZ3	0	28					○		
AA4	0	28					○		
BB4	0	28					○		
CC4	0	28					○		
DD4	0	28					○		
EE4	0	28					○		
FF4	0	28					○		
GG4	0	28					○		
HH4	0	28					○		
II4	0	28					○		
JJ4	0	28					○		
KK4									

DATE:

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$111B\beta\gamma - 4 =$ Mal + Lac - Mtl - Gal + Ara -
 $S^R Xyl +$

all $S^R Mtl - Ara - Gal +$

Lac + { Mal + Xyl +
Lac - { Mal - Xyl -

Fresh eggies

1157

DATE: May 6, 1954

REF:

Hfr x W1177.

1157.

Conjugal pairs.

DATE: MAY 8 1954

REF:

1	2	3	4	5	6	7	8	9	10
W234411	x W1177	fresh cultures.	Mix 2P14.	Reduplicate and (not) not?	examine 3P14.	(1 hour mixture)			
doe 1157	135								
10	Lac	S	Gal	Mal					
1	+		-	+					
2	++		-	+					
3	+	R	-	+					
4	-	R	++	-					
5	-	R	++	-					
6	-	R	++	-					
7	-	R	++	-					
8	-	R	++	-					
9	-	R	++	-					
10	-	R	++	-					
11	+	D2	-	♂					
12	+	D5	-	♂					
13	-		-	♀					
14	+	E4	±	♀					
15	+	E5	-	♂					
16	-		±	+					
17	+		-	♂					
18	-		±	-					
19	+		+	♂					
20	-		±	-					
21	+		-	♀					
22	-		±	-					
23	+		+	♂					
24	-		-	♀					
25	+		+	♂					
26	-		-	♀					
27	+		+	♂					
28	-		-	♀					
29	+		+	♂					
30	-		-	♀					
31	+		-	♂					
32	-		±	-					
33	-		+	♂					
34	+	H2	-	♀					
35	None ++	Others ±							
36									
37									
38									
39									
40									
Gal ++ = 2101									
Gal ± = 1177									
Gal - = 2344									
Gal									
41									
42									
43									
44									
45									
46									
47									
48									
49									
50									

Results:

E1:

E1,
E5
♀, ♀

♂ → E2 (less not)
↓
♂ → ♀
♂ → E1, more not
↓
G2, G3.
♀ ♀.

♂
↓
♂

Assoc. ca 1 hour!
but no recombs detected.

♂

Assoc. ca 15 m.
but no recombs detected.

These should be saved!

= 1158 21 25
31-33

Hfx x W2401

1158

DATE:

MAX 11 P.M.
MIN 10 P.M.

MAY 10 1954

REF:

136

Note: most pairs were $\frac{2}{3}$ p. of 10 pairs, both survived in 7, both lost in 3, 28 only lost in 1; 1 only lost in one of other pairs
(see over)

I was "separated by surface tension" (drying): both lost.
of the 5 present pairs, 4 were "separated" spontaneously

B1-2 → ♂ - ♀ and X -

H1-2 → ♂ died ♀ " -

don't count D4.

A3-5 A¹ A³
died ① → ♀ only.

D1-2-5 ♂ → | ♂ ♂
 ↓ ↓ ↓
 ♂ ♀ both died

3012 ♂ = W2344M1
28-♀ = W2401.

← count as "viable pair"

A1-2

I was manipulated at 1 hour

O- → ♀, ♂ only.

Save: A1-2, 3; B1-2; D1-5; H2; F1-2-5

F2 simply looked peculiar under microscope

as if motile type 28 but pure bal-bac+ indicated (σ^+)

Gave for further comparison. Abundar $\#$ [147] as

these show no particular heterogeneity (among survivors). probably old

F2 was plated out on EMB bal.

Zygote isolations

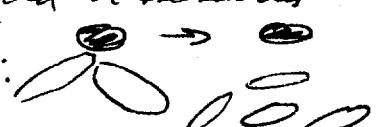
MAY 8 1954

1156. 15 pairs isolated. 28 failed in 8. ~~6~~/~~7~~ of
 [131] remainder, solely from line 28 parent. 1 prob. ♂♀ + 1.
 1 pair, ~~====~~ ♂ lysed at pipette.

1155 Most pairs not separated (19). ~~4~~/~~4~~ from l28 parent
 [130]
 53D ~~4~~/~~4~~ partly separated.
 [129]

Total to date ($w2344m1 \times w2401$): ~~3~~/~~16~~

Decisions:

1. These are all fairly late pairs. Each is should be studied to ensure that zygotes result from pairs, not concave, and to seek diakaryon cells such as 1156 B2. Notes should be consulted in event of doubt on purity of this cell. None indicated: 
2. Perhaps fuller pedigrees.
3. Review possibilities of line-1 crosses (if 1158. Thd Fl^a- 1177 or 1895!)
4. Cytology.
5. Find previous resume'!
6. Problem of undetected recombinants: why not more?

1 hour fresh zygotes

MAY 11 1954

1159.

DATE:

REF:

May 12, 1957

DATE:

REF:

A. Start to isolate numerous pairs, but this was interrupted.
rather late culture.

144 A1-D3 are isolations, but only A1-5 were separated (65) quite late). B1-D3 give only viability data: from the untraced pairs, both ♂ and ♀ gave in 9; ♂ only ~~in 3~~ and both died in 0. This suggests that viability may be connected with separation but other differences are possible.

In A1-4 ♀ eggplant separated early (watch ALR!); A5 at 30+50 ade sequence in A1 is not clear from notes (was it synchronous?).

B. 1/43/ Picks 5 pairs (rather haphazardly) for pedigree analysis.

A1: 1-A, B,^{1 cell}
♂ ♀

B 1 cell

2A: C♀ A2♂ B2♂ A2 D2 C2 E2 F2 all grew.

3A A E♀ BL BR C D
♂ ♂ O. F. O. F.
1 cell 1 cell
144E1-4 F1-4

all but E grew

4A B♀ A♂ C D E4 B. 1 cell only
40 ♂ ♀

5A - A♂ B♀ both grew.

change to correlate growth delay & zygotes.

50 Note fair survival of these, too.

MAY 14 1954

DATE:

REF:

143 - 144

	1	2	3	4	5	6	7	8	9	10
1	143	EHB Lac	Lac	Gal	Mal Methyl	S				
A	1	+	+	-	+	S				
B	0	.								
C	0									
2	144	+	+	+	R	-				
A	28	+	+	+	SS					
B	11	+	++	-	R					
C	28	-	-	+	R					
D	28	-	-	+	R					
E	28	-	-	+	R					
F	28	-	-	+	R					
3	A	28	-	+	-					
B	11	+	+	-						
C	28	-	-	+						
D	28	-	-	+						
E	0	-	-	+						
F	28	-	-	+						
G	0	-	-	+						
4	A	1	*	+	-					
B	0	.	.	+	+	S				
C	(144E)	-	-	+	-	-	R			
D	(144F)	-	-	+	-	-	R			
E	28	-	-	-	.	.	.	.	.	.
F	28	-	-	-	.	.	.	.	.	.
5	A	1	.	+	-	+	S			
B	d.	.	.	+	-	.	.	.	.	.
	50									

6/5/54 Lac+ component died out
all parental are +; me.
concordant.

MAY 14 1954

DATE:

REF:

9 A.M.

1160

MAY 14 A.M.

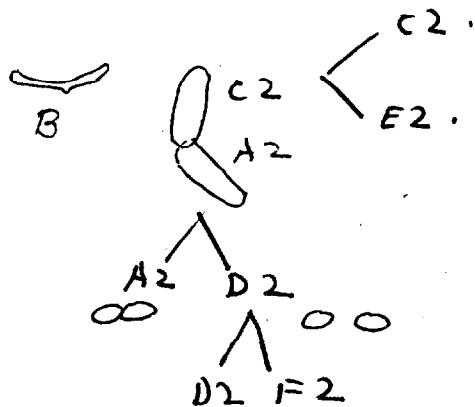
9 A.M. 1431

MAY 1954

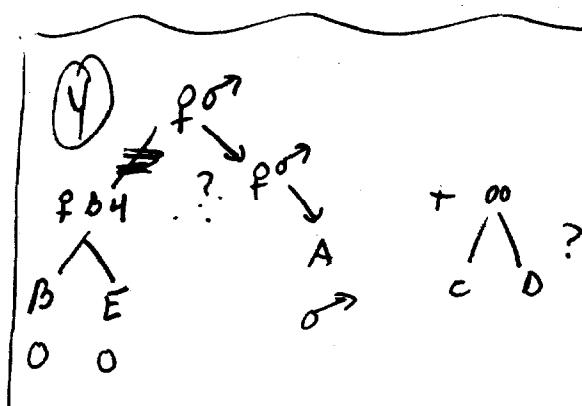
1. ♀ died ♂ A → save as
B

2. A2 zygote ♀ "160-2"
B ♂
C D E F ♀

3. A - C - D - F ♀
E - G ♂
B ♂

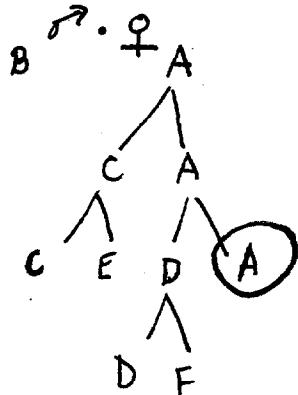


4. A ♂
B E ♂
C D ♀

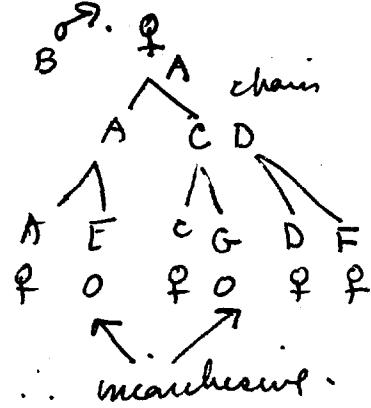


5. A ♂
B d.

poss. mitochondrial also.



(3)



... mitochondrial.

DATE:

May 13 1954.

REF:

42

- 141

Overnight, X $10^{30} - 11^{55}$ 37° 1:1:10 Pinessay.
 A_1 picked ca 130.
 A_2

142

Fresh cross X $12^{30} - 3 PM$ sic.

Not separated: Rep refrigerated overnight +
 separations to 142, 143, A14.

	1	2	3	4	5	6	7	8	9	10
141	A4	EMBloc	Gal	Mal	Mel	S				
	A5	-	+	++	+	R				
	C1	-	+	++	+	R				
	(3)	-	+	++	+	R				
	4	-	+	++	+	S				
	5	-	+	++	+	S				
D	1	-	+	-	-					
	2	-	-	+	-					
	3	-	-	+	-					
	4	-	-	+	-					
	5	-	-	+	-					
E	4	-	-	-	-					
	5	-	-	-	-					
G	1	-	-	-	-					
H	1	-	-	-	-					
	2	-	-	-	-					
	3	-	-	-	-					
	4	-	-	-	-					
	5	-	-	-	-					

all parents
encountered.

1161 is a Mal+
yielding not showing a
Mal+Lac- recombs but
exhibiting a Mal-Lac+
recomb. also

142	G1	++	Pair of (?) R (lact?) Mal MEL Xyl							
	2	+		S						
	3	+		S						
	5	+		S						
	H	4	0							
	5	-								

R

Lac	SM	Mal MEL Xyl	Gal		
G1	++	-	R (lact)	(++)	(++)
2	+	S		+	+
3	+	S		+	+
5	+	S		+	+
H	5	-	R	-	-

Gal among
MEL Xyl needs to
be rechecked.

Re - 10/54. Pure lact.

Found first: $\begin{cases} \text{lact} & \text{S} \\ \text{lact} & \text{MEL-S} \end{cases}$ Mal-Xyl

$\begin{cases} \text{lact} & \text{S} \\ \text{lact} & \text{MEL-S} \end{cases}$ + +

$\begin{cases} \text{lact} & \text{S} \\ \text{lact} & \text{MEL-S} \end{cases}$ - -

$\begin{cases} \text{lact} & \text{S} \\ \text{lact} & \text{MEL-S} \end{cases}$ many colonies
tested

No lact+S, Yal+S (Reexamined for ① Lac+S & No ② Lac-Mal+ No (MEL-S) + + tested)

DATE:

May 14, 1954.

REF: 1137

	1	2	3	4	5	6	7	8	9	10
A	1	EMBac	# 0	♂♀d.			X 1:1:20 (fresh)	12:30 - 2:10		
	2		+	♂ ♂, ♀d			(set up to 2:40).			
	3		+	♂ ♂, ♀d						
B	4	+	+	♂ ♂, ♀d	N.S.	♂d.				
	5	+	+	♀d.						
D	3	-	+	♀d.						
E	5	+	-	♀d.						
H	5	++	-	♀d.						
(G5)		♂)	not paired.							

These viable pairs only: A3-D3 ♂. ♀ n.s. ♂
 (G5)-H5 ♂. ♀ ♂
 B1 (n.s.) ♀ (susp appearance -
 resists EMBac.)

See protocols for other isolates. V. Poor Viability !!

Raw incidence = 1/3 pairs zygotic

	Tac	Xyl-Mal-	S	cal	
A	1	O			
	2	+	+		♂
	3	+	+	-	♂
	4	+	+	+	♂
B	3	-	-	-	♂
	3	+	+		♀
D	3	-	-	+	♀
E	5	+	+	+	♂
H	5	++	-	-	♀

all concordant

Pais. Taxis
transmigrator trap
Salmonella.

1163.

DATE: May 19, 1954.

REF:

(150)

(1) The culture (W2346A11) seems sluggish. Resistant motile cells = A1-4. A1 n.g. (A3) probably best to be paired. From this serial #, use 6x8 coverglass manifolds. Letting in sequence A B C D : E F G H . . .

(2) Set up pairs in adjacent degs: (2) ① next to trap deg, note that ♂ have to swim through ♀ to reach trap. May have worked moderately well, but setting of ♀ suggests better to allow intimate mixture before trapping. Many very early pairs seem to separate very readily indeed, perhaps saving isolators. But no systematic data!

(3) Conventional mixture 1:1:6 2¹⁰ - 3¹⁵ isolators from
c. 340 - 4:40, using tray degs

B 1
2
3
4
5
6

C 1
2
3
4
5
6

D 1
2
3
4
5
6

E 1
2
3
4
5
6

F 1
2
3
4
5
6

G 1
2
3
4
5
6

H 1-2

Please write + page

1/4

Comment: Survival fairly good.

Note: both manip ♀ died but also 2 others. Would predict several zyg. but may be some post cleavage lethality not detected.

Pick sequence:

A 3 D 1

B 4 E 2

C 5 F 3

D 6 E 1

E 7 F 2

F 8 E 3

G 9 F 4

H 10 G 5

I 11 H 6

J 12 I 7

all class to date have agreed on recorded type of cell required Note of very difficult

DATE:

5/20/24.

5/21/34 5/22

REF:

This C2 may be a dikanjon

at foot second
reading only

Stratified out on EMB Loc., Cal. Both Ba^+ and $^-$ are present.

- a) spot some of these on plate for 1164 tests
 - b) check mortality?

S.S. = ^{self}
S.M. = ^{self} after fifth d.

record on C2 was:

3:54 +0

st. ca 5:15

6:25 O²
3

presumably separated by
slight manipulation.

No comment on behavior at isolation. No basis for
question on the isolation - possibility of contamination
at isolation is not inherently excluded.

In view of rarity of this event even now (and reduced incidence per
~~zygote~~ fmpacis, the matter must be strenuously questioned.

No amule is noted of motile cells in the dog.

Why is proportion now so low if true? See next page →

Tests on C2: Streak out on EMBS Gal. Gal+ > Gal- colonies.

Pick and stroke: 5 Gal+ 6 Gal-. all are { Non-motile
Gal- Mal- Mal- Xyl- S^R and are thus simply a } "motility
against agar
10/54

Gal-/orthotype recombinant! Streaked on EMBS lac, no lac+ are

noted, but some colonies are pink (lac Gal-?). When crowded
with some pink "+" colonies.

- a) Chunks Hfr, Lp, mutator. b) Might be Lac+ Gal- Xyl- ...
- c) Presumably not lac⁺ Hfr would (made by Gal+ - x?)
give lac+ Gal+ recombinants. d) Chunks motility, Mal+?

1163
C2.

DATE: May 23, 1954.

REF:

1	2	3	4	5	6	7	8	9	10
①	Already identified as carrying λ and lac ⁻ ? Gal ⁻ Mtl ⁻ Stat Xyl ⁻ SR.								

In initial spot and especially in first replica to lac, definite + reaction was indicated, suggested possibility of modified lac⁺ = Gal⁻ Xyl⁻ ^{rk.}.
Also doubtful possibility of presence of Mal⁺.

11A23. 10 Replica from original spot to stab and 1163C2

a) mobility - more in susp. fern agar 1163C2, C2, C2A, C2B; no in agar.

b) streak EMB lac again

c) Mal, Mtl

d) λ , X - Gal⁺

e) Cytability: ARI x 1895M2; o^o 0/10 | N26
 1 C2A 1895M2 p25 | Slac status, bp, may indicate former.
 2 2206 + all- nutritive. Should certainly be
 3 c2B 1895M2 ++ + + + + + -? crossable & Y10 done.
 4 2206 ++ + + -

f) Nutrition: both M-H -

orthotype: C2A = Gal⁺; C2B = Gal⁻ colonies.

Brought in Pressey, thing A.

Pure Mal⁻ Mtl⁻ lac⁻ + lac⁺ reaction in background. Recombine.

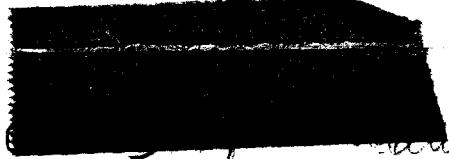
This reaction comes from interaction of Gal⁺ lac⁻ / Gal⁻ lac[?] colonies
attempt Gal⁺ reversion of w2502

(W2502)

40 This recombr. could very readily be missed unnoticed! Ar-

Note exaggerated orthotype of e2 cf. e3

Separation of sc. +
 metab. +
 Note most positive! (positive)

11 
 vs. degree of root

DATE:

	min. not	poor not	high not
lac + gal + mal + mut +	1	6	15
+ + + -	0	1	1
+ + - -	0	1	4
- + + +	0	0	3
- + - + 10	0	0	0
- + - -	0	0	1
- + + -	0	0	0
Total	1	8	24

No. this rose is

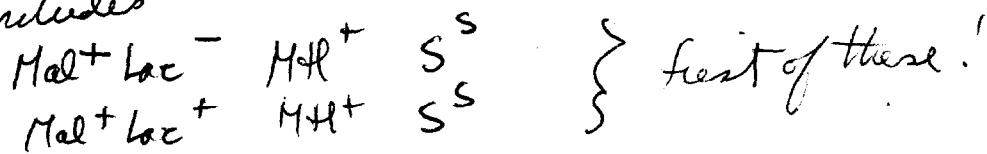
DATE: MAY 20 P.M.

REF:

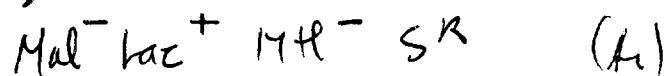
151.

all Gal^+ remote

D3 includes



~~etc~~



perhaps should be reviewed even more thoroughly.

Mal^+ purifies all S^{s} ; some impur. give $\text{Mal}^+ \text{ S}^{\text{R}}$ "dead" or
~~contaminants~~?

Presentation: (I.s.c.i)

See 10/1/51

1	lac - Mal -	$\text{H} - \text{M}$ (S)	$\text{Ara}^- \text{ U}_1^{\text{s}}$
2	lac + Mal -	$\text{H} - \text{M}^-$	$\text{Ara}^+ \text{ U}_1^{\text{R}}$
3	lac - Mal +	H^-	$\text{Ara}^- \text{ U}_1^{\text{s}}$
4	lac : Mal +	$\text{H} - \text{M}^-$	$\text{Ara}^+ \text{ U}_1^{\text{R}}$

See 1183. In routine checks, H^- signaments found

among 1164D3. Among isolates 1-4, #3 was ~~H~~ $\text{H}^- \text{ M}^+$
(others presumably $\text{H}^- \text{ M}^-$ as no growth on H agar). To try to find
other types (1) streak growth of mixture through D(H) on EMB/Mal,
found ca 1% Mal^- (2) streak on EMB/Mal on and test
mass (all Mal^-).

DATE:

REF:

DATE: MAY 21 1954

REF:

152

D2A. lac⁺/-, pure Mal⁻.

gave +, -

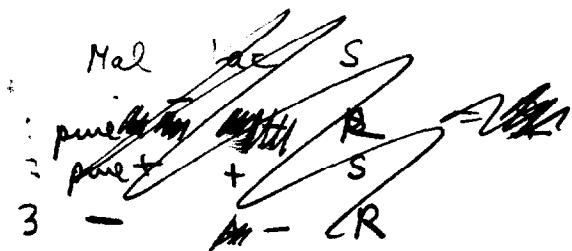
D2B. lac⁺/- ; Mal⁻ and Mal^{"v"}.

D2B1.

4 of these therefore. Prove to be mucoid, no distinct indication of segregation +/-.

3 lac+ muc. D2B2

1 lac- muc. D2B3



	Mal	lac	S
1	-	+	R
2	+	+	S
3	+	-	S

becoming less mucoid. All all auxotrophic.
not segregating.

D2A has ♀, lac⁺ Mal⁻

D2B has ♀, Lac⁺ Mal⁻, Lac⁺ Mal⁺, Lac⁻ Mal⁺. all lac⁺.

presumably failure of Mal elimination & crossing over S/Mal.

of 1161D3! In both cases, only genes which show Mal⁺, all 4 combinations are seen. Is lac⁺ Mal⁺ after giving reciprocal recombinants?

175
EMB/lac lac Mal/Hor Xyl. Gal S (lac)

G 1						-	
2	10	: ss	♂	+	-	+	
3	30	:	♀	-	-	+	
4	"	: ss	♂	+	-	-	
5	00	:	♀	-	-	+	Mal
6	00	:	♀	-	-	+	Mal
H	1	111	: ss	♂	+	-	
2	00	:	♀	-++	(9) ✓	-	
3	00	:	♀	-	-	+	R -t
4	"		♂	+	✓	+	
5	0	x ss	0			-	
6	0		0				
J	1	0	: ss	♀	-	-	
2	0	:	♀	-	-	-	R

all dogs concordant
to the formula.

a pair complete, & "zygote"! Note segregation in 3/4 pedigree.

4: Zyg. ss; ss, sl. num; ss

5: nonzyg (det.) lost dog; s.p; ss, ss; ss.

W-2401, W-2344M1; W-1895M2
 F- Hfr F-

DATE: May 22, 1954

REF:

153

Yesterday's observations suggest that motile F- (cf. also ⁵Salmonella) does not pair with W-2401. This can be properly confirmed only by a competitive pairing experiment. Suggest: mate a triad with Hfr mot; F- mot; F- non-mot. Pick pairs and diagnose. For simple diagnosis, it should not be essential to separate out the pairs, but would be useful if most of these, as expected, will be bisexual. Similar expt. possible with F+. also permitting "F-duction" test.

Cf. DCG notes and 1154. W-1895 used here is second passage motility, ~~and second colony~~ ¹⁰ reisolate showing F- behavior (with peculiar segregation ratios). (before reisolation).

10 Overnight cultures, to 10 ml. Penassay, 37° 9:25 AM

- A. W-2344M1 (.1) + W-2401 (1)
- B. do. + W-1895M2 (.1)
- C. W-1895 M2 + W-2401.

Precisely concerned about λp^3 of W-2401 but EM1 finds it goes to λ . (possibly Mal- λp_2^{-1} ?). W2338, W2384 being reisolated.

20 11:40 - 12:40 Isolate pairs. Leave at R.T. Some probable motile-motile pairs seen also.

In controls, no pairing was seen in C compared to A.

Control for B: streak out on EMB lac, Test lac+ on T4Bstal to verify ratio of Hfr/F-.

N23: A, B show SR+, not C. on lac son.
 ca 1%

EMB End:

A: ca. = +, - (sic! indicates growth diff.?)

Lac.

+ almost = -.

B: + > -

+ = -

C: all +.

+ almost = -.

Sample lac+ to EMB Gal. (Pick every char+ available to avoid bias or slight difference of appearance.) : 23 Gal+ : 1 Gal- (F-) (Hfr)

Competitive pairing

1166

153

start

A ₁	A ₂	Spec.	Deg A ₂₃	D _{lac}	A ₂₅	lac	Mal	Mtl	Gal	S (lac)
1/2 X	①	♂	0	44	-	-	-	-	+	R
		♀								
3	40	♂								
4	"	♂								
5	"	♂								
6	00	♀								R

pted
already

B	1	2	3	4	5	6	7	8	9	10
1/2 X	♂	♀								
2	50	♀								
3	1+	♂								
4	.	-								
5	111	♂								
6	60	♀								

C	1	2	3	4	5	6	7	8	9	10
1/2 X	♂	♀								
2	111111	♂								
3	0000	0								
4	1111111	♂								
5	00000000	♀								
6	11111111	♂								
7	0000	♀								

lac present
gal -

all rare
etc. B3

if in
shuttle
pure Mal

why are
Ab
recov.
late?

	Gen	digp	Blac	⁺²⁵ lac	Metyl	S(lac) Gal	
E 1 2	○ ① fatnot	○ ○					
3	+	♂		-	+	+	-
4	○○	♀		-	-	R	+
5	+	♂		+	+	+	-
6	○○	♀		=	6	+	+
F 1 2	+	♂		+	7	+	-
3	○○○○	♀		-	7	-	+
4	○○○○	♂		+	+	+	-
5	○○	♂		+	+	+	-
6	○○	○		+	+	+	-
? E 1 2	○○	○○ || ♂	(♂)?	+	+	+	-
3	+	♂		(++)	1.	++	+
4	○○○○	♀		-	8	+	+
5	-						-
6	-						-
H 1 2	○ ○○○○	○ ♂		+	+	+	-
3 4	○○○○	♀		-	-	R	+
5	○○	○		.	.		
6	○○	♂		++	++	+	+
	X○	♂		++	++	+	+

cover

∴ all pairs were either Hfr/F-28 or (E1-2) and (H5-6) which carry ~~A~~ metF alone or iffr.

<u>pair</u>	<u>singles</u>
8 Hfr/F-28	7 Hfr,
1 Hfr/F-	2
<hr/>	
0 F-28	23 F-

Net replication 2/8 zygotes

could we detect recombination between E1/H2? Only analyses are galp/V? Test /75.

1168

DATE: May 25 1954

REF:

MAY 24 P.M.

9¹⁵ Some EM/Bacillus tests on lac⁻ segregants.

1163 B5 B6 C5 C6 E2 ~~E3~~ E5 E3

1164 A2-3 A5-6 B5-6 C3 D5-6 F5-6 H5

1165
 52 A6 C3 C5-6_{ab} F356 G23 G56 J1-2
 53 D4 D6 E4 E6 F2 G4 H3

all were Ar⁻ except? (B6)

63 C2A, B	64 D3	G7D
Ar ⁻	Mal ⁺ lac ⁺ - Ar ⁺	
	Mal ⁺ lac ⁻	Ar ⁻

Trees lac⁻ / Ar⁺
 recombinants would not
 add appreciably to tot.

1164 D3:

lac⁺ M⁺ Mal⁻ SR (Ar⁺)
 all lac⁺

15^{AB}
 A6 - Lac⁺ Mal⁺
 Mal⁻ M⁺
 SR

• lac⁻ M⁺ Mal⁺ ~~S^s~~ sic.

recheck, might be mixed.
 lac⁺ M⁺ Mal⁺ S^s 2? SR " " " "

(Ar⁻)
 (Ar⁺)

No lac⁻ ~~Mal⁻~~ Mal⁻ piled

Mal⁻ Mal⁻ and all but
 concord. rewards.

DATE:

5/24/54.

REF: See 1113.

139.

W2206 is recorded as very futile F $^+$. Use for F-ductus in chance of also detecting recombinant fission pairs.
 (overgrowing cultures.)

- A. ~~♂~~ ♂ & ♀ T \ddagger 1:1:10 in Petri dish 8:25¹⁵ 37°
 B. ♀ + ♂ T \ddagger 1:1:10

C. W2206 & ♀ T \ddagger 1:1:10

Repeat 2:30 - = further mot.

End. ① W2206 insufficiently motile ② T \ddagger at these levels
 inhibits motility in these strains
 (of previous observations?).

Pass W2206 again - Recount later if necessary.

T.O. isolates.

1168

DATE: May 25 & 26, 1954.

REF: C40

1168 - ~~etc.~~state
5/28/54.

DATE:

P27

A28.

REF:

[140].	1	Exp.	Ino-type	Hypotype	Blot	Disposition	8	9	10
A	1 (2) 3 4 5	68C " " " 68B C	mot? not not not? not	○ ○ ○ ○ ○	- - - - -	<u>False pairs:</u>			
B	1 (2)	" C " C	s.p mot	○ ○	- -	"	"		
C	1.	"	♀	○		"	"		
C	3. (4)	B	not snake	○		"	"		
D	1. (2) 3. (4)	C C C C C B ₀ B ₀ B ₀ B ₀ B ₀	> mot not ♀ not	○ ○ ○ ○ ○	- - - - +				
F	2. (3) 4. (5)	B B B B B	/ o / o / o / o / o	○ ○ ○ ○ ○	- + - +	test for recomb.			
G	2. (3)	B B	/	○	X.	"			
H	1. (2) 3. (4)	B ₀ " B B	s.p ♀ / o	○	- + +	"			

Many initially cool pairs evidently iso ("false")

♀ still usually invisible.

Suspicion that W250² induces changing of ^{forward} ^{maternal} ^(normal) ^(inverted) F⁻ cells. cf 1170 data.

Try strainers of alge. matig?

Date: 1168 —

all pure tact

No valid F⁺/F⁻ pro. in this set. possible 2002 x 2003 pairs to some and check snakes of motile side in F²-3, 4-5, H1, 2, H3, 4. In particular, stand out tact for presence of ~~-~~ ~~all~~

1169A.

F Henry

DATE:

May 27, 1959.

REF:

1	2	3	4	5	6	7	8	9	10
9 ³⁰	ovari.	older cuticle						(140)	
A. W2206 M1 .1	♀ 1.	: 10 both	- 11 ³⁰					Numerous pairs!	
B. W2332 .1	♀ 1	:	"					11 30 - 12 ³⁰	
C. W2502 1	w2503 .1	:	10 "					leaves out in view of A success.	
CE, AA 12 ⁴⁵		AA - 2 ¹⁰ .						CCC, D, 6-8 PM.	
D = ♂ × ♀ D. Y10 X 2502. 6-8 PM.								C showed very few pairs.	
re late PM: numerous clumps & pairs noted but not now picked.								140 E 1-2 F1 X. F2 X.	

1169A. (F ⁺ /♀)	Broodnum.	deotype A2B	Isolac Area	strip # ave	VF
B3	b1 ♂	pd	0		
4	2 ♀	pd	0		
20	3 ♀...	pd	0		
B4	b4 ♂	28d	+	1169-	
41	b5 ♀ 7.)	28d	0		
B5	a1 ♂	1.	+	A1	
30	a1 ♀	d	0	B1	
C2	a2 ♂	d.	0	A2	
42	a3 ♀	pd ♀	-	B2	
43	8 ♀	pd 28	-	B3	
C5	a4 ♂	1? pd.	0		
44	4 ♀ w/	1? pd.	+		
D5	8 ♂	1.	+		
40	c1 16 ♀	d.	+		
c2 16 ♀	28.	-			
E2	6 ♂	1.	+	A8	
c3 8 ♀	28	-		B6	
c4 mot?	1.	+		A5	
c5 "	1.	+		A10	
E3	d1 8 ♂	1.	+	A6	
50	8 ♀	28	-	B7	
E4	d2 16 ♀	1.	+	A8	
-	d2 16 ♀	28	-	B8	
E5	d3 8 ♂	1.	+	A8	
50	12 ♀	28	-	B9	

1169
A.A.

lac A29

138

^{0.15%}
the F_v

1145 - 210 PM. F⁺/♀.
broodism

A 1)	♂	0		
	♂	0		
	♀	28	=	B1B
B 1)	♀	28	=	B1Z
2)	♂	0		A##

B 3)	♂	0		
4)	♂	0 (m.)		
5)	♀	28	-	B1B

C 1)	♂	1. 28 1.	++	A1213
2)	♀	28	=	B14
5)	♀	28	=	B15

C 3)	♂	0	+	A11
4)	♂	1		

D 1)	♂	1	+	A14
2)	♀	28	-	B16

E 1)	♂	28	-	B17
2)	♂	1	+	A15
3)	♀	28	-	B18

E 3)	♀	28	-	B19
4)	♀	1 pd	+	A16
5)	♀	28	-	B20

F 1)	♂	28	+	A17
2)	♀	1	-	B21

F 3)	♂	28	+	A18
4)	♀	28	-	B22
5)	♀	28	-	B23

G 1)	♂	28	+	A19
2)	♀	28	-	B24

3)	♂	28	+	A20
4)	♀	28	-	B25
5)	♀	28	-	B26

H 1)	♂	28	--	A27, 28
2)	♂	1	-	
3)	♀	0	+	A21

H 4)	♂	0		
5)	♀	0		

why such less day, than 140° all in air.

DATE:

May 28, 1954.

REF:

155

1	2	3	4	5	6	7	8	9	10
Y10M1	+ W2502		.1 : 1 : 10	oversay	37°	100 - 245			

(ABC1DE1). 2:30 - 3:45 in NB (C4 E4 FGH).

Thus 16 "pairs" isolated, but many proved invalid. An early suspicion, 8PM, record as mixed only:

¹⁰ A1, C1, H1 and these were separated & later proved correct.

However A1 B1 E1 may still have some mg 28 type cells.

∴ Pick A1-2, C1-2, H1-3 and B1, E1. in this sequence.

²⁰ W2502 though nonmotile is not morphologically quite so distinctive from line 1 as is W2401. Should correspondingly, ^{but} ^{deep} bac P30 same streakout.

A1 (unmixed) 1, 28? + → lac+, few (and lac-SR).

2) 28 - → pure lac+

C1 1 28 + → pure +
2 28 - → pure +

H1 1 28 + → pure +
2 28 - → pure +

3 28 - → pure +

B1 1-28? -+ → lac+, -

E1 1-28? +- → "

endoubtedly not!

B1, E1.

① streak out A1, C1, H1-2 on EMBS lac for lac- recomb. (Gal+ or S^s)

② A1 also ~~as~~ ~~lac~~ / s. ~~lac~~

A1 is presumably a mixture of parents only as lac- = SR. Others show no lac- in single cell progeny off-~~but test done in B1, E1~~ for more efficient tests suff. i.e. lac+ / V, R.

DATE: May 30 1954

REF: 1163-64

A) Esther crossed W2574 x W2118 on EMS Mal. Pick Mal+ (to EMS Gal) (mod. crowded), replica to EMS Mal, 1 sun.

45 Mal+. of these, 9 also had Mal+ SR. DCG is checking 8 of these for concurrence of other classes.

9 also had Mal- SR thus Mal-SR/Mal+ SR. presumably "turnis"). check Lac concurrence.

-8, DCG : # 3 also had Mal- SR # 6, 8 also had Mal+ S. Not clear wether turnis

B) Hernandez, look for turnis (var rossorum)
steatocyst on EMS Mal. (Number not clear) 10 had Mal+/-

	Mal+	Mal-/-
Lac ++	3	7
++	2	8
-+	2	0
-(-,+)	0	4

No indication of significant lacunarity.
Results altogether inconclusive!

of cryptic data (not prototyphic)

DCG 1171.

1171 A

1171A 1-8 (known to contain mal + SR) ; Standard out
 (only 2 had mal-)
 on S mal; picked 10 col. from each streak. Spotted
 each on S gal; replicated to S mal and S mal S 14.
 Results:

- 1: All mal + SR
- 2: " " "
- 3: 5 mal + SR; 5 mal - SR
- 4: All mal + SR
- 5: " " "
- 6: 9 mal + SR; 1 mal + SR
- 7: All mal + SR
- 8: 1 mal + SR; 9 mal + SR

1171A 11-21 Standard out on S mal to isolate mal +.
 In most of these streaks no mal - appeared.
 Spotted mal + and mal - (mal - ^{definitely} from S mal S 14
 plate) on S lac.

	<u>mal +</u>	<u>mal -</u>		<u>mal +</u>	<u>mal -</u>
11	lac +	lac +	16	lac -	lac +
12	+	-	17	-	+
13	+	-	18	+	+
14	-	+ and -	19	+	+
15	-	+ and -	20	-	+ and -
			21	-	+ and -

(other two spots 14 or 15)

1171 B

Picked colonies mal + col. to Slac; replicated to Snel
and Snel 514.

Only 3 contained SR components

#8 & #15 contained mal - SR

#14 - mal + SR

8 & 15; Spotted mal + and mal - on Slac;

8 mal + mal -
 lac - lac -

15 lac - lac + and -

14: Strained out on Snel (\rightarrow no mal -); picked
16 colonies to Slac; replicated to Snel and Snel 514.
All 16 were mal + SR.

5/31/51.

D(0)

lac:

1. W2206M1 x ♀	0	
2 1165D2B2 x Y10M1	few?	
3 1164D3 - x "	+	
4 ♂ x ♀	see 1171B.	+
5 W2581 x Y10M1	1+/>100 - . pure + col (orthot.)	
6 W2583 x W1177M4	ca 1-2% +/- colonies	
7 W2583 + W2407.	Probable lac+ / but not char + (ortho is only -).	

Mix 3-4 h., plate & washing on D(0), or dilute on EM13lac TS.
EM15Had

∴ W2502 is verified as Hfr + orthotype pattern seems similar.

6) should be most profitable for detection of zygotes. also
repeat plating on EM13lac dilut.

σ^{male} \times ♀ motile
line 28A line 1

173

DATE:

July 2, 1954.

REF:

158-157

Brought to
Lab!

W2583 \times W2639.

σ^{male} W894 Mal + Mot F

1135 - ~~black~~ eyes.

Final pairs:

cell cool.

A2
B3
C4
D5
E6
F7
G8
H9
I10
J11
K12
L13
M14
N15
O16
P17
Q18
R19
S20
T21
U22
V23
W24
X25
Y26
Z27

Dog

EMBLac

(+ -)

Mal

Mot

Gal

Sy

S motile.

see
card

A2
B3
C4
D5
E6
F7
G8
H9
I10
J11
K12
L13
M14
N15
O16
P17
Q18
R19
S20
T21
U22
V23
W24
X25
Y26
Z27

B3
4
5

28
-
lost

28

28

28

large

28

28

28

28

28

28

28

28

28

28

concordant.
o others no growth! /not d. only?
o others no growth!

half this

n.g

n.g

n.g

n.g

n.g

n.g

n.g

3

4

5

6

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9

10

11

12

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11/27/83

DATE:

July 3, 1987.

REF: 159

	1	2	3	4	5	6	7	8	9	10
A 2		Cellul.	Prop.	blac						
3 manip		18	28	+						
4		1	1	-						
5 syp		20	28 28	+						
B 1	dip.	28	0							
2		1	1	-						
3										
B 4	manip	28	28	+						
5		28	28	+						
6		1	0	-						
A 6		28	28	+						
C 1	ss	28	28	+						
2		1	1	-						
B 3		1	1	-						
C 3	syp	28	28	+						
4		1	1	-						
C 5	sap	28	28	+						
6		1	1	-						
D 1	ss	28	28	+						
2		1	1	-						
3										
D 4	ss	28	28	+						
5		1	1	-						
E 1	slm.	28	28	+						
2		1	1	-						
E 3	ss	28	28	+						
4		1	1	-						
F 2	ss,	28	28	+						
3		1	1	-						
F 4	manip	28	28	+						
5		1	0	-						
G 1	s.p	28	28	+						
2		1	1	-						
G 3	manip	28	28	+						
4		1	0	-						
G 5		28	28	+						
H 1	syp	28	28	+						
2		1	0	-						
H 3		28	28	+						
H 4	ss	1 (28)	28 0	+						
H 5										

all recipient
contributes again! Not!

1174

DATE

DATE: July 5, 1954.

REF:

160

DATE:

July 4, 1954

REF:

	1	2	3	4	5	6	7	8	9	10
	10 ml penassay, 1/2 ml wg-x emulsified + $\frac{1}{2}$ ml W2581 (wg 20% Hg)									
	7/5. Noz motility tubes.									
	Examine cultures carefully Pg.									
1175:	ng.	X: motility		control:motility						
	3	0								
10	4	0								
2	9	0								
3	10	0								
4	11	+		+ (occ. cells)						
5	17	0								
6	18	0								
7	27	+		+ (occ.)						
8	31	0								
	51	Bought		+ estmorn						
	53	++		+ +						
30	54	0								
40	DCG no repeating extremely.									
50										

40 Preliminary tests in motility agar, same results. No Tox S. 48h. 30° same.

Removeable into Penassay at 25° for poss. temperature effect.

(also try 34, 38, 40, 42, 49, 50: preliminary controls nonmotile). (see over)

Unit of life cultures

	<u>tube (48h.)</u>	<u>water</u>
22	swarm throughout tube	motile present
32	slow	motile present
34	non-motile	no motile seen
38	" "	" " "
40	" "	" " "
42	flare	no motile seen
47	swarm throughout tube	motile present
49	non-motile	no motile seen
50	" "	" " "
52	swarm throughout tube	motile present
55	" "	large proportion motile